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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/720,783	11/24/2003	Pavel Novotny	03-0956 1496.00343	4943
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LSI CORPORATION 1621 BARBER LANE MS: D-106 MILPITAS, CA 95035			EXAMINER REKSTAD, ERICK J	
			ART UNIT 2621	PAPER NUMBER
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/720,783

Applicant(s)

NOVOTNY ET AL.

Examiner

Erick Rekstad

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 24 November 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-23 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-23 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

This is a First Office Action for application no. 10/720,783 filed on November 24, 2003 wherein claims 1-23 are presented for examination.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

Claims 22 and 23 are rejected under 35 U.S.C. 102(e) as being anticipated by
US Patent 6,948,127 to Zhu et al.
[claims 22 and 23]

As shown in Figures 7a and 7b, Zhu teaches an apparatus (600) comprising the means for generating a decoded video signal(302, Fig. 1) and syntax elements (325, Fig. 2B) in response to encoded bitstreams;

and means (308, Fig. 1) for generating one or more overlay images in response to said syntax elements, wherein said one or more overlay images comprise one or more graphic symbols representing said syntax elements of said encoded bitstream (Abstract, Col 4 Lines 18-31, Col 5 Line 54-Col 6 Line 7, Col 6 Lines 19-25 and Lines 39-50, Figs. 1 and 2B). Note: In the example of Figure 2B, a blue block is used to indicate a new quantization value.

Further as required by claim 23, Zhu teaches a method for performing the generating in Figure 6 (Col 12 Lines 9-18 and Lines 57-67).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1, 2, 8-18, and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Zhu.

[claim 1]

As shown above for claims 22 and 23, Zhu teaches the use of a computer (600, Fig. 7a) to run the program described in Figure 6 (Col 13 Lines 57-64). Zhu also teaches the use of alternative forms of the system, such as circuits (Col 13 lines 11-14). As described in Figure 5, the decoding of the video signals and syntax elements are performed by steps (500 and 502). The generating of the overlay images is performed by step (508). It would have been obvious to one of ordinary skill in the art at the time of the invention to perform the steps of Zhu in circuits as Zhu suggests such an alternative apparatus (Col 13 lines 11-14).

[claim 2]

Zhu teaches the one or more overlay images further comprise a graphic representation of statistics of said encoded bitstream (Col 4 Lines 23-25, Col 6 Lines 46, Col 7 Lines 14-15, Figs. 2B and 2E).

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[claim 8]

As shown in Figure 1, Zhu teaches the one or more overlay images further comprise one or more of a main window configured to display said decoded video signal, a statistics window, a legend window and a bit value window (Fig. 1). Note: The Figure shows a video window 301, a statistics window (307), a legend window (308), and a bit value window (309).

[claims 9 and 13]

As shown in Figure 2A, Zhu teaches the use of a grid representing a number of macroblocks and relative size of each macroblock of said decoded video signals as an overlay (Col 6 Lines 31-38).

[claim 10]

Zhu further teaches wherein said one or more overlay images further comprises one or more graphic symbols representing one or more of a macroblock type, a submacroblock type and a prediction direction (Col 6 Line 64-Col 7 Line 10, Col 7 Lines 18-41, Col 10 Line 63-Col 11 line 3, Figs. 2C, 2D, 2F, 2G, and 5C). Note: Figures 2F and 2G show macroblock type while Figures 2C, 2D and 5C show prediction direction.

[claim 11]

Zhu teaches the use of colors to depict values for the graphic symbols (Col 6 Lines 46-48 and 54-58 and 67, and Col 7 Line 7).

[claims 12 and 16]

Zhu further teaches the use of a Histogram (348, Fig. 2A) as a graphic symbol representing a number of bits used to encode syntax elements of each macroblock in

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said decoded video signal (Col 8 Lines 13-22). Note: the histogram relates to the number of bits used in compression of macroblocks.

[claim 14]

As shown in Figure 5A, Zhu further teaches an overlay representing a reference index (418 and 419) for each macroblock in said decoded video signal (Col 10 Lines 5-9 and Lines 42-47).

[claim 15]

As shown in Figure 5A, Zhu further teaches an overlay representing a macroblock level frame/field coding parameter (Col 10 Lines 17-20).

[claim 17]

Zhu teaches the use of histograms (348 and 352, Fig. 3) to provide the user information about the macroblocks as shown above for claim 16 (Col 8 Lines 13-22 and 35-43). Histogram 352 specifically teaches the display of the range of complexity for the macroblocks in the frame (Col 8 Lines 39-43). Zhu further teaches the type of macroblock determines the number of bits used by the macroblock and the complexity for the macroblock is derived from the number of bits (Col 8 Lines 7-12 and Lines 25-28). Therefore it would have been obvious to one of ordinary skill in the art at the time of the invention that the histogram 352 presents information regarding the number of block types contained as Zhu teaches complexity is based on block type.

[claim 18]

As shown in Figure 2A, Zhu teaches providing a composite video signal in response to said decoded video signal and said one or more overlay images. Zhu is

silent on the use of a specific compositing circuit. Zhu teaches the use of a computer (600, Fig. 7a) to run the program described in Figure 6 (Col 13 Lines 57-64). Zhu also teaches the use of alternative forms of the system, such as circuits (Col 13 lines 11-14). As described in Figure 5, the decoding of the video signals and syntax elements are performed by steps (500 and 502). The generating of the overlay images is performed by step (508). It would have been obvious to one of ordinary skill in the art at the time of the invention to perform the steps of Zhu in circuits as Zhu suggests such an alternative apparatus (Col 13 lines 11-14).

[claim 20]

As shown in Figures 7A and 7B, Zhu teaches the use of a computer system and a monitor (6020). Computer systems are well known in the art to use memory in a video card (Official Notice).

Claims 3 and 4 are rejected under 35 U.S.C. 103(a) as being unpatentable over Zhu as applied to claim 2 above, and further in view of US Patent 6,727,915 to Coleman et al.

[claims 3 and 4]

As shown above for claim 1, Zhu teaches the displaying of overlays comprising graphic symbols representing statistics of the encoded bitstream (Fig. 1). Zhu is silent on the display of image resolution, bitrate, frame rate, frame errors, peak signal to noise ratios, and average peak signal to noise ratios.

As shown in Figure 4, Coleman teaches a similar overlay displaying means for presenting information to the user. Coleman specifically teaches displaying bitrate and

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frame rate (Col 7 Lines 45-50). Coleman further teaches providing a graph of the bit rate (Col 6 Lines 61-67). It would have been obvious to one of ordinary skill in the art at the time of the invention to provided the statistics of Coleman with the apparatus of Zhu in order to provide the user an interactive computation of resource usage as taught by Coleman (Col 7 Lines 59-62).

Claims 5-7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Zhu and Coleman as applied to claim 3 above, and further in view of US Patent 6,525,746 to Lau et al.

[claims 5 and 7]

As shown above for claims 3 and 4, Zhu and Coleman teach the providing of graphs for statistics of the video, such as bitrate. Zhu and Coleman are silent on the use of dynamically adjustable scales for the graph.

As shown in Figure 6, Lau teaches the use of graphs to display peak signal to noise ratio and bitrate. Lau further teaches the use of the graphs to provide the user information for adjusting the encoding settings (Col 9 Lines 9-21 and Lines 36-41). It would have been obvious to one of ordinary skill in the art at the time of the invention to use the graphs of Lau with the apparatus of Zhu and Coleman in order to provide the user information for adjusting encoding settings as taught by Lau (Col 9 Lines 36-41, Col 12 Lines 13-23). It would have further been obvious to one of ordinary skill in the art to provide the user the ability to adjust the scales of the graph based on the user's required precision (Official Notice).

[claim 6]

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As shown above for claim 3, Zhu and Coleman teach the presenting to the user several statistics related to the video. Zhu and Coleman are silent on the display of the peak signal to noise ratio as a graph.

As shown in Figure 6, Lau teaches the displaying of graphs of peak signal to noise ratios to the user in order to provide the user information for adjusting encoding settings (Col 9 Lines 9-21 and Lines 36-41). It would have been obvious to one of ordinary skill in the art at the time of the invention to combine the graphs of Lau with the apparatus of Zhu and Coleman to provide the user information for adjusting encoding settings as taught by Lau (Col 9 Lines 36-41, Col 12 Lines 13-23).

Claim 19 is rejected under 35 U.S.C. 103(a) as being unpatentable over Zhu as applied to claim 1 above, and further in view of US Patent 6,532,024 to Everett et al. [claim 19]

As shown above for claim 1, Zhu teaches the display of the video and syntax data on the display of a computer (Fig. 1). Zhu further teaches the ability of the user to change the resolution (Col 9 Lines 25-36, Fig. 2A). Zhu teaches the use of MPEG encoded video, which uses the 4:2:0 chrominance format (Col 4 Lines 56-61 and Col 10 Line 53). Zhu is silent on the adjusting of the scale and converting from a YUV format to an RGB format.

As shown in Figure 5, Everett teaches the use of a audio-video signal processor for simultaneously displaying resized non-interlaced video images with addition graphics on a standard computer monitor (Abstract). The processor includes the ability to adjust the scale and aspect ratio of the video using a scaler (360, Fig. 9)(Col 13 Lines 33-59,

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Fig. 9). Everett further teaches the use of a yuv->rgb converter for displaying video (Col 12 Lines 8-18, Fig. 8). It would have been obvious to one of ordinary skill in the art at the time of the invention to use the scaling and converting process of Everett with the apparatus of Zhu in order to provide the video and syntax to the computer monitor as taught by Everett (Abstract).

Claim 21 is rejected under 35 U.S.C. 103(a) as being unpatentable over Zhu as applied to claim 1 above, and further in view of US Patent 7,167,522 to Webb.

[claim 21]

Zhu teaches the use of the apparatus for use with mpeg-x, h.26x, or any block based compression format (Col 4 Lines 56-61). Zhu is silent on the use of specifically h.264.

Webb teaches h.264 is a block based compression format (Col 1 Lines 37-41). IT would have been obvious to one of ordinary skill in the art at the time of the invention to use the apparatus of Zhu with h.264 since Webb teaches h.264 is a block based compression format (Col 1 Lines 37-41).

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.


US 6,011,868 to van den Branden et al.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Erick Rekstad whose telephone number is 571-272-7338. The examiner can normally be reached on 8-5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mehrdad Dastouri can be reached on 571-272-7418. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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